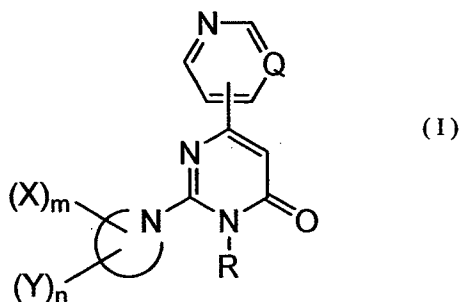


AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A pyrimidone derivative represented by formula (I) or a salt thereof, ~~or a solvate thereof or a hydrate thereof~~:



wherein Q represents CH or nitrogen atom;

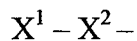
R represents a C₁-C₁₂ alkyl group ~~which may be substituted~~;

the ring of:



represents piperazine ring or piperidine ring;

each X independently represents



wherein X¹ represents

an oxo group;

a C₁-C₈ alkyl group ~~which may be substituted~~;

~~a C₃-C₈ cycloalkyl group which may be substituted;~~

~~an optionally partially hydrogenated C₆-C₁₀ aryl ring which may be substituted;~~

~~an indan ring which may be substituted;~~

~~an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the group consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring-constituting atoms in total;~~

~~an aralkyloxy group;~~

a group represented by -N(Ra)(Rb)

wherein Ra and Rb are the same or different and each is
hydrogen,

~~a C₁-C₄ alkyl group which may be substituted,~~

~~an aralkyl group which may be substituted, or~~

~~a C₃-C₈ cycloalkyl group which may be substituted,~~

~~an aryl group which may be substituted,~~

~~C₁-C₈ alkylcarbonyl group which may be substituted,~~

~~C₃-C₈ cycloalkylcarbonyl group which may be substituted,~~

~~aralkylcarbonyl group which may be substituted,~~

~~C₆-C₁₀ arylcarbonyl group which may be substituted,~~

~~C₁-C₈ alkylsulfonyl group which may be substituted,~~

~~C₃-C₈ cycloalkylsulfonyl group which may be substituted,~~

~~aralkylsulfonyl group which may be substituted,~~

~~C₆-C₁₀ arylsulfonyl group which may be substituted,~~

~~C₁-C₈ alkyloxy carbonyl group which may be substituted,~~

~~C₃-C₈ cycloalkyloxycarbonyl group which may be substituted,~~

~~aralkyloxycarbonyl group which may be substituted,~~

~~C₆-C₁₀ aryloxycarbonyl group which may be substituted,~~

~~aminocarbonyl,~~

~~N-C₁-C₈ alkylaminocarbonyl group which may be substituted,~~

~~N,N'-C₁-C₈ dialkylaminocarbonyl group which may be substituted,~~

~~N-C₁-C₈ alkyl N'-C₃-C₈ cycloalkylaminocarbonyl group which may be substituted,~~

~~N-C₁-C₈ alkyl N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C₁-C₈ alkyl N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~C₃-C₈ cycloalkylaminocarbonyl group which may be substituted,~~

~~N,N'-C₃-C₈ dicycloalkylaminocarbonyl group which may be substituted,~~

~~N-C₃-C₈ cycloalkyl N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C₃-C₈ cycloalkyl N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~aralkylaminocarbonyl group which may be substituted,~~

~~N,N'-diaralkylaminocarbonyl group which may be substituted,~~

~~N-aralkyl N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~N,N'-C₆-C₁₀ diarylaminocarbonyl group which may be substituted, or~~

~~an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the group~~

~~consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring~~

~~constituting atoms in total; or~~

Ra and Rb together with the adjacent nitrogen atom form a 4 to 7 membered heterocyclic ring

which may further contain 1 to 4 groups selected from an oxygen atom, a sulfur atom, N-Re

(wherein R_e represents

a hydrogen atom,

a C_1 - C_4 alkyl group which may be substituted,

an aralkyl group which may be substituted,

C_3 - C_8 cycloalkyl group which may be substituted or

an aryl group which may be substituted,

C_1 - C_8 alkylcarbonyl group which may be substituted,

C_3 - C_8 cycloalkylcarbonyl group which may be substituted,

aralkylcarbonyl group which may be substituted,

C_6 - C_{10} arylcarbonyl group which may be substituted,

C_1 - C_8 alkylsulfonyl group which may be substituted,

C_3 - C_8 cycloalkylsulfonyl group which may be substituted,

aralkylsulfonyl group which may be substituted,

C_6 - C_{10} arylsulfonyl group which may be substituted,

C_1 - C_8 alkylloxycarbonyl group which may be substituted,

C_3 - C_8 cycloalkylloxycarbonyl group which may be substituted,

aralkyloxycarbonyl group which may be substituted,

C_6 - C_{10} aryloxycarbonyl group which may be substituted,

aminocarbonyl,

N - C_1 - C_8 alkylaminocarbonyl group which may be substituted,

N , N' - C_1 - C_8 dialkylaminocarbonyl group which may be substituted,

N - C_1 - C_8 alkyl N' - C_3 - C_8 cycloalkylaminocarbonyl group which may be substituted,

N - C_1 - C_8 alkyl N' -aralkylaminocarbonyl group which may be substituted,

~~N-C₁-C₈ alkyl-N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~C₃-C₈ cycloalkylaminocarbonyl group which may be substituted,~~

~~N,N'-C₃-C₈ dicycloalkylaminocarbonyl group which may be substituted,~~

~~N-C₃-C₈ cycloalkyl-N' aralkylaminocarbonyl group which may be substituted,~~

~~N-C₃-C₈ cycloalkyl-N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~aralkylaminocarbonyl group which may be substituted,~~

~~N,N'-diaralkylaminocarbonyl group which may be substituted,~~

~~N aralkyl-N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~N,N'-C₆-C₁₀ diarylaminocarbonyl group which may be substituted, or~~

~~an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the group~~

~~consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring~~

~~constituting atoms in total),~~

~~a carbonyl group, a sulfinyl group or a sulfonyl group in the ring, and said 4 to 7 membered~~

~~heterocyclic ring may optionally be fused with an aryl group which may be substituted;~~

X² represents

a bond,

a carbonyl group,

a sulfinyl group,

a sulfonyl group,

an oxygen atom,

a sulfur atom,

a C₁-C₄ alkylene group which may be substituted or

N-Rd

(Rd represents

a hydrogen atom,

a C₁-C₄ alkyl group which may be substituted,

an aralkyl group which may be substituted,

C₃-C₈ cycloalkyl group which may be substituted or an aryl group which may be substituted,

or

C₁-C₈ alkylcarbonyl group); which may be substituted,

C₃-C₈ cycloalkylcarbonyl group which may be substituted,

aralkylcarbonyl group which may be substituted,

C₆-C₁₀ arylcarbonyl group which may be substituted,

C₁-C₈ alkylsulfonyl group which may be substituted,

C₃-C₈ cycloalkylsulfonyl group which may be substituted,

aralkylsulfonyl group which may be substituted,

C₆-C₁₀ arylsulfonyl group which may be substituted,

C₁-C₈ alkylloxycarbonyl group which may be substituted,

C₃-C₈ cycloalkylloxycarbonyl group which may be substituted,

aralkyloxycarbonyl group which may be substituted,

C₆-C₁₀ arylloxycarbonyl group which may be substituted,

aminocarbonyl,

N-C₁-C₈ alkylaminocarbonyl group which may be substituted,

N,N'-C₁-C₈ dialkylaminocarbonyl group which may be substituted,

N-C₁-C₈ alkyl-N'-C₃-C₈ cycloalkylaminocarbonyl group which may be substituted,

~~N-C₁-C₈ alkyl N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C₁-C₈ alkyl N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~C₃-C₈ cycloalkylaminocarbonyl group which may be substituted,~~

~~N,N'-C₃-C₈ dicycloalkylaminocarbonyl group which may be substituted,~~

~~N-C₃-C₈ cycloalkyl N'-aralkylaminocarbonyl group which may be substituted,~~

~~N-C₃-C₈ cycloalkyl N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~aralkylaminocarbonyl group which may be substituted,~~

~~N,N'-diaralkylaminocarbonyl group which may be substituted,~~

~~N-aralkyl N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~

~~N,N'-C₆-C₁₀ diarylaminocarbonyl group which may be substituted, or~~

~~an optionally substituted heterocyclic ring having 1 to 4 hetero-atoms selected from the group consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10 ring-constituting atoms in total);~~

m represents an integer of 1 to 3;

each Y independently represents

a halogen atom,

a hydroxy group, or

a cyano group,

~~Y¹-Y³-~~

wherein ~~Y¹~~ represents

a C₁-C₈ alkyl group which may be substituted;

a C₃-C₈ cycloalkyl group which may be substituted or

a C₆-C₁₀-aryl ring which may be substituted;

Y³ represents

a carbonyl group,

a sulfinyl group,

a sulfonyl group,

an oxygen atom,

a sulfur atom,

a C₁-C₄ alkylene group which may be substituted or

N-Re

(Re represents

a hydrogen atom,

a C₁-C₄ alkyl group which may be substituted,

an aralkyl group which may be substituted,

C₃-C₈ cycloalkyl group which may be substituted or an aryl group which may be substituted,

C₁-C₈ alkylcarbonyl group which may be substituted,

C₃-C₈ cycloalkylcarbonyl group which may be substituted,

aralkylcarbonyl group which may be substituted,

C₆-C₁₀ arylcarbonyl group which may be substituted,

C₁-C₈ alkylsulfonyl group which may be substituted,

C₃-C₈ cycloalkylsulfonyl group which may be substituted,

aralkylsulfonyl group which may be substituted,

C₆-C₁₀ arylsulfonyl group which may be substituted,

~~C₁-C₈ alkyloxycarbonyl group which may be substituted,~~
~~C₃-C₈ cycloalkyloxycarbonyl group which may be substituted,~~
~~aralkyloxycarbonyl group which may be substituted,~~
~~C₆-C₁₀ aryloxycarbonyl group which may be substituted,~~
~~aminocarbonyl,~~
~~N-C₁-C₈ alkylaminocarbonyl group which may be substituted,~~
~~N, N'-C₁-C₈ dialkylaminocarbonyl group which may be substituted,~~
~~N-C₁-C₈ alkyl N'-C₃-C₈ cycloalkylaminocarbonyl group which may be substituted,~~
~~N-C₁-C₈ alkyl N'-aralkylaminocarbonyl group which may be substituted,~~
~~N-C₁-C₈ alkyl N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~
~~C₃-C₈ cycloalkylaminocarbonyl group which may be substituted,~~
~~N, N'-C₃-C₈ dicycloalkylaminocarbonyl group which may be substituted,~~
~~N-C₃-C₈ cycloalkyl N'-aralkylaminocarbonyl group which may be substituted,~~
~~N-C₃-C₈ cycloalkyl N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~
~~aralkylaminocarbonyl group which may be substituted,~~
~~N, N'-diaralkylaminocarbonyl group which may be substituted,~~
~~N-aralkyl N'-C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~
~~C₆-C₁₀ arylaminocarbonyl group which may be substituted,~~
~~N, N'-C₆-C₁₀ diarylaminocarbonyl group which may be substituted, or~~
~~an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from the~~
~~group consisting of oxygen atom, sulfur atom, and nitrogen atom, and having 5 to 10~~
~~ring constituting atoms in total),~~

n represents an integer of 0 to 8;

~~when X and Y or two Y groups are attached on the same carbon atom, they may combine to each other to form a C₂-C₆ alkylene group;~~

~~and when m is 1, n is 0, and X is X¹-CO-~~

~~(1) X does not bind to 3 position of unsubstituted 1-piperazinyl group or does not bind to 3-position of a 4-alkyl-1-piperazinyl group; or~~

~~(2) X does not bind to 3 position or 4 position of non-substituted 1-piperidinyl group.~~

when the ring represented by X or X¹ has one or more substituents, the ring may have one or more substituents selected from:

a C₁-C₅ alkyl group;

C₃-C₆ cycloalkyl group;

a C₃-C₆ cycloalkyl-C₁-C₄ alkyl group;

a C₁-C₄ hydroxyalkyl group;

a halogen atom;

a C₁-C₅ halogenated alkyl group;

cyano group;

nitro group;

formyl group;

a benzene ring which may be substituted;

a naphthalene ring which may be substituted;

an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from oxygen atom, sulfur atom and nitrogen atom, and having 5 to 10 ring-constituting atoms in total;

an amino group;

dimethylamino group;

an N-C₃-C₆ cycloalkyl-N-C₁-C₄ alkylaminoalkyl group wherein said C₁-C₄ alkyl may be substituted by hydroxy group or C₁-C₄ alkoxy group;

a C₁-C₅ monoalkylaminomethyl group;

a C₂-C₁₀ dialkylaminomethyl group;

pyrrolidinylmethyl group;

piperidinylmethyl group;

morpholinomethyl group;

piperazinylmethyl group;

pyrrolylmethyl group;

imidazolylmethyl group;

pyrazolylmethyl group;

triazolylmethyl group;

and a group of the formula -E-R_f wherein

E represents O, S, SO, SO₂, CO or N(R⁴) and

R_f represents

a C₁-C₅ alkyl group,

a C₄-C₇ cycloalkyl group,

a C₄-C₇ cycloalkylalkyl group,

a C₁-C₅ hydroxyalkyl group,

a benzene ring which may be substituted,

a naphthalene ring which may be substituted,

an optionally substituted heterocyclic ring having 1 to 4 hetero atoms selected from oxygen atom, sulfur atom and nitrogen atom, and having 5 to 10 ring-constituting atoms in total,

an N-C₃-C₆ cycloalkyl-N-C₁-C₄ alkylaminoalkyl group,

a C₁-C₅ monoalkylaminoalkyl group,

C₂-C₁₀ dialkylaminoalkyl group,

pyrrolidinylmethyl group,

piperidinylmethyl group,

morpholinomethyl group,

piperazinylmethyl group,

pyrrolylmethyl group,

imidazolylmethyl group,

pyrazolylmethyl group or

triazolylmethyl group,

C₁-C₈ alkylcarbonyl group,

C₃-C₈ cycloalkylcarbonyl group which may be substituted,

aralkylcarbonyl group which may be substituted,

C₆-C₁₀ arylcarbonyl group which may be substituted,

C₁-C₈ alkylsulfonyl group,

C₃-C₈ cycloalkylsulfonyl group which may be substituted,

aralkylsulfonyl group which may be substituted,

C₆-C₁₀ arylsulfonyl group which may be substituted,

C₁-C₈ alkylloxycarbonyl group,

C₃-C₈ cycloalkylloxycarbonyl group which may be substituted,

aralkyloxycarbonyl group which may be substituted,

C₆-C₁₀ arylloxycarbonyl group which may be substituted,

aminocarbonyl,

N-C₁-C₈ alkylaminocarbonyl group,

N, N'-C₁-C₈ dialkylaminocarbonyl group,

N-C₁-C₈ alkyl-N'-C₃-C₈ cycloalkylaminocarbonyl group,

N-C₁-C₈ alkyl-N'-aralkylaminocarbonyl group,

N-C₁-C₈ alkyl-N'-C₆-C₁₀ arylaminocarbonyl group,

C₃-C₈ cycloalkylaminocarbonyl group,

N,N'-C₃-C₈ dicycloalkylaminocarbonyl group,

N-C₃-C₈ cycloalkyl-N'-aralkylaminocarbonyl group,

N-C₃-C₈ cycloalkyl-N'-C₆-C₁₀ arylaminocarbonyl group,

aralkylaminocarbonyl group,

N,N'-diaralkylaminocarbonyl group,

N-aralkyl- N'-C₆-C₁₀ arylaminocarbonyl group,

C₆-C₁₀ arylaminocarbonyl group,

N,N'-C₆-C₁₀ diarylaminocarbonyl group, and

R⁴ represents

a hydrogen atom,

a C₁-C₄ alkyl group,

an aralkyl group,

C₃-C₈ cycloalkyl group or

an aryl group which may be substituted; and

when the ring represented by X, or X¹ has one or more substituents, the substituent may

further have one or more substituents selected from:

a C₁-C₅ alkyl group;

C₃-C₆ cycloalkyl group;

a C₃-C₆ cycloalkyloxy group;

C₁-C₄ hydroxyalkyl group;

a C₁-C₅ alkoxy group;

a C₄-C₇ cycloalkylalkoxy group;

a C₁-C₅ alkylthio group;

a C₁-C₅ alkylsulfonyl group;

a halogen atom;

a C₁-C₅ halogenated alkyl group;

a C₁-C₅ halogenated alkoxy group;

hydroxyl group;

cyano group;

nitro group;

formyl group;

a C₂-C₆ alkylcarbonyl group;

amino group;

a C₁-C₅ monoalkylamino group;

a C₂-C₁₀ dialkylamino group;

a cyclic amino group;

a C₂-C₁₀ monoalkylaminomethyl group;

a C₃-C₁₁ dialkylaminomethyl group;

a phenyl group;

an aralkyloxy group;

an aralkyloxycarbonyl group;

an C₂-C₄ alkanoyloxy-C₁-C₄ alkyl group;

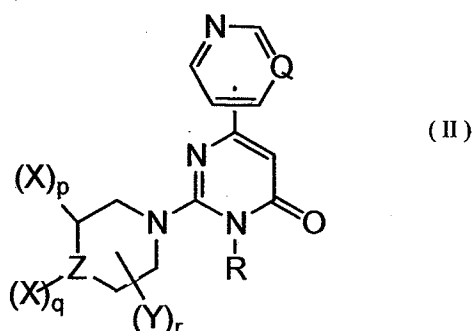
an alkanoylamino group;

N-C₁-C₄ alkyl-N-alkanoylamino;

N-C₁-C₄ alkyl-N-heterocyclic ring amino group; and

a diheterocyclic ring amino group.

2. (Currently Amended) The pyrimidone derivative or the salt thereof, ~~or the solvate thereof or the hydrate thereof~~ according to claim 1 having the following formula(II)



wherein Q, R, X and Y are the same as those defined in claim 1;

p is 0 or 1; q is 0 or 1; r is an integer of 0 to 6; p+q is 1 or 2;

and Z represents N or CZ¹ wherein Z¹ represents hydrogen atom or Y.

3. (Currently Amended) The pyrimidone derivative or the salt thereof, ~~or the solvate thereof or the hydrate thereof~~ according to claim 2, wherein R is a C₁-C₃ alkyl group which may be substituted by a C₃-C₈ cycloalkyl group.

4. (Currently Amended) The pyrimidone derivative or the salt thereof, ~~or the solvate thereof or the hydrate thereof~~ according to claim 3, wherein R is methyl group or ethyl group; Y is

in 3-, 4- or 5-position of the piperazine ring or the piperidine ring; $p+q$ is 1; and r is an integer of 0 to 3.

5. (Currently Amended) The pyrimidone derivative or the salt thereof, ~~or the solvate thereof or the hydrate thereof~~ according to claim 4, wherein X is a C_1 - C_8 alkyl group which may be substituted or a C_6 - C_{10} aryl ring which may be substituted; Y is a C_1 - C_6 alkyl group ~~which may be substituted~~; p is 1; q is 0; r is an integer of 0 to 3; and Z is N or CH.

6. (Currently Amended) The pyrimidone derivative or the salt thereof, ~~or the solvate thereof or the hydrate thereof~~ according to claim 5, wherein X is a benzene ring which may be substituted, a benzyl group which may be substituted; Y is a methyl group ~~which may be substituted~~; Z is N and r is 0 or 1.

7. (Currently Amended) The pyrimidone derivative or the salt thereof, ~~or the solvate thereof or the hydrate thereof~~ according to claim 4, wherein X is a benzene ring which may be substituted, or a benzyl group which may be substituted, ~~a benzoyl group which may be substituted, or a benzisothiazol ring which may be substituted~~; Y is a methyl group which may be substituted; Z is N and p is 0.

8. (Currently Amended) The pyrimidone derivative or the salt thereof, ~~or the solvate thereof or the hydrate thereof~~ according to claim 4, wherein X is a C_1 - C_8 alkyl group substituted by a benzene ring which may be substituted or a benzene ring which may be substituted; Y is a hydroxy group, a cyano group, ~~or Y^1 -CO wherein Y^1 is a C_1 - C_8 alkyl group~~; Z is CH or C- Y and r is 0 or 1.

9. (Currently Amended) The pyrimidone derivative or the salt thereof, ~~or the solvate thereof or the hydrate thereof~~ according to claim 8, wherein X is a benzyl group which may be substituted or a benzene ring which may be substituted; Y is a hydroxy group, ~~a cyano group, or an acetyl group~~; Z is CH or C-Y and r is 0 or 1.

10. (Original) A pyrimidone derivative which is selected from the group consisting of:

2-(3-Phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one; (*S*)-2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-

one;

(*R*)-2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(4-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(3-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(2-Ethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;
2-(3-(5-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-
pyrimidin-4-one;
2-(3-(4-Fluoro-3-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-
pyrimidin-4-one;
2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-
pyrimidin-4-one;
(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-
pyrimidin-4-one;
(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-
pyrimidin-4-one;
2-(3-(4-Chloro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-
pyrimidin-4-one;
2-(3-(4-Fluoro-2-methylphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-
pyrimidin-4-one;
2-(3-(2-Fluoro-6-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-
pyrimidin-4-one;

2-(3-(5-Bromo-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Bromo-4-fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Chloro-6-fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Difluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Difluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Dichlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,5-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,6-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,4-Difluoro-6-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;(1034)

2-(3-(5-Cyano-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-

pyrimidin-4-one;

2-(3-(4-Cyano-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-

pyrimidin-4-one;

2-(3-(1-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2,3-Dihydrobenzofuran-7-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-

pyrimidin-4-one;

2-(3-(Benzofuran-2-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(Benzofuran-2-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-methoxy-4-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-methoxy-5-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Phenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Fluorophenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(2-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Morpholin-4-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Methylpiperazin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Benzylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Benzoylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-(1,2-Benzisothiazol-3-yl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Methyl-3-phenylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Acetyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Benzyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(4-Benzyl-3-(ethoxycarbonyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-

pyrimidin-4-one;

2-(4-methyl-3-(1-naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(5,5-Dimethyl-3-(2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-Phenylpiperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Chlorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Bromophenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Methoxyphenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-(4-((Pyrrolidin-1-yl)methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-Hydroxy-3-phenylpiperidin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-one;

2-(3-Phenylpiperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Fluorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Chlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Bromophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Cyanophenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(3-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Ethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(6-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(5-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(4-Chloro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(5-Bromo-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(2,6-Dichlorophenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-

one;

2-(3-(2,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyridyl)-3*H*-pyrimidin-4-

one;

2-(3-(3,4-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(2,5-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(2,6-Dimethoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(2,4-Difluoro-6-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(1-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-Naphthyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2,3-Dihydrobenzofuran-7-yl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(Benzofuran-2-yl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Pyrrolidin-1-yl-methyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-methoxy-4-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(2-methoxy-5-(pyrrolidin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(Phenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Fluorophenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(4-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(3-(4-(2-Methoxyphenyl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(4-(Morpholin-4-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(4-(4-Methylpiperazin-1-yl)phenyl)piperazin-1-yl)-3-methyl-6-(4-pyrimidyl)-

3*H*-pyrimidin-4-one;

2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-

pyrimidyl)-3*H*-pyrimidin-4-one;

(*S*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-

pyrimidyl)-3*H*-pyrimidin-4-one;

(*R*)-2-(3-(4-Fluoro-2-methoxyphenyl)-4-methylpiperazin-1-yl)-3-methyl-6-(4-

pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-Acetyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-

pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-Benzyl-3-(4-fluoro-2-methoxyphenyl)piperazin-1-yl)-3-methyl-6-(4-

pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-(4-Fluorophenyl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-Cyano-4-phenylpiperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-4-one;

2-(4-(6-Fluorobenofuran-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

2-(3-(Benzoisoxazol-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-pyrimidin-

4-one;

(*S*)-2-(3-(Benzoisoxazol-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3*H*-

pyrimidin-4-one;

(R)-2-(3-(Benzoisoxazol-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3H-pyrimidin-4-one;

2-(3-(6-Fluorobenzoisoxazol-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3H-pyrimidin-4-one;

2-(4-(6-Fluorobenzoisoxazol-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3H-pyrimidin-4-one;

2-(4-(5-Methylbenzofuran-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3H-pyrimidin-4-one; and

2-(4-(6-Fluorobenzothiophene-3-yl)piperidin-1-yl)-3-methyl-6-(4-pyrimidyl)-3H-pyrimidin-4-one

or a salt thereof, ~~or a solvate thereof or a hydrate thereof.~~

11. (Currently Amended) A medicament composition comprising as an active ingredient ~~a substance selected from the group consisting of the~~ at least one pyrimidone derivative represented by formula (I) ~~and or a salt thereof, and a solvate thereof and a hydrate thereof~~ according to claim 1.

12. (Currently Amended) A method of inhibiting tau protein kinase 1 ~~inhibitor selected from the group consisting of the~~ activity comprising administering to a patient a tau protein kinase 1 inhibiting effective amount of at least one pyrimidone derivative represented by formula (I) ~~and or a salt thereof, and a solvate thereof and a hydrate thereof~~ according to claim 1.

13. (Currently Amended) ~~The medicament according to claim 11 which is used~~ A method for preventive and/or therapeutic treatment of a disease caused by tau protein kinase 1 hyperactivity comprising administering to a patient an effective amount of the composition according to claim 11 to inhibit activity of tau protein kinase 1.

14. (Currently Amended) ~~The medicament according to claim 11 which is used~~ A method for preventive and/or therapeutic treatment of a neurodegenerative disease comprising administering to a patient a preventively and/or therapeutically effective amount of the composition according to claim 11.

15. (Currently Amended) The ~~medicament~~ method according to claim 14, wherein the neurodegenerative disease is selected from ~~the group consisting of~~ Alzheimer disease, ischemic cerebrovascular accidents, Down syndrome, cerebral bleeding due to cerebral amyloid angiopathy, progressive supranuclear palsy, subacute sclerosing panencephalitic parkinsonism, postencephalitic parkinsonism, pugilistic encephalitis, Guam parkinsonism-dementia complex, Lewy body disease, Pick's disease, corticobasal degeneration, frontotemporal dementia, vascular dementia, traumatic injuries, brain and spinal cord trauma, peripheral neuropathies, retinopathies, and glaucoma.

16. (Currently Amended) ~~The medicament according to claim 11, wherein the~~ A method for preventive and/or therapeutic treatment of a disease is selected from the group consisting of non-insulin dependent diabetes, obesity, manic depressive illness, schizophrenia, alopecia, breast cancer, non-small cell lung carcinoma, thyroid cancer, T or B-cell leukemia, and a virus-induced tumor comprising administering to a patient a preventively and/or therapeutically effective amount of the composition according to claim 11.